Kafka & Zookeeper Setup Guide

1. Start Zookeeper

```
cd ~/Downloads/kafka_2.13-3.9.0
bin/zookeeper-server-start.sh config/zookeeper.properties
```

2. Start Kafka Server

```
cd ~/Downloads/kafka_2.13-3.9.0
bin/kafka-server-start.sh config/server.properties
```

3. Create Kafka Topic

Option 1: Localhost

```
bin/kafka-topics.sh \
  --create \
  --topic mqtt_data_topic \
  --bootstrap-server localhost:9092 \
  --partitions 1 \
  --replication-factor 3
```

Option 2: Specific IP

```
bin/kafka-topics.sh \
  --create \
  --topic mqtt_data_topic \
  --bootstrap-server 192.168.144.205:9092 \
  --partitions 1 \
  --replication-factor 3
```

4. Describe Kafka Topic

Option 1: Localhost

```
bin/kafka-topics.sh \
  --describe \
  --topic mqtt_data_topic \
  --bootstrap-server localhost:9092
```

Option 2: Specific IP

```
bin/kafka-topics.sh \
  --describe \
  --topic mqtt_data_topic \
  --bootstrap-server 192.168.144.205:9092
```

5. Delete Kafka Topic

Option 1: Localhost

```
bin/kafka-topics.sh \
  --delete \
  --topic mqtt_data_topic \
  --bootstrap-server localhost:9092
```

Option 2: Specific IP

```
bin/kafka-topics.sh \
  --delete \
  --topic mqtt_data_topic \
  --bootstrap-server 192.168.144.205:9092
```

6. Listen to Kafka Topic

Option 1: Localhost

```
bin/kafka-console-consumer.sh \
  --bootstrap-server localhost:9092 \
  --topic mqtt_data_topic \
  --from-beginning
```

Option 2: Specific IP

```
bin/kafka-console-consumer.sh \
  --bootstrap-server 192.168.144.205:9092 \
  --topic mqtt_data_topic \
  --from-beginning
```

7. macOS Firewall (Optional)

Turn Off Firewall

```
sudo /usr/libexec/ApplicationFirewall/socketfilterfw --setglobalstate off
```

Turn On Firewall

```
sudo /usr/libexec/ApplicationFirewall/socketfilterfw --setglobalstate on
```